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PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR §1.53(c).

Express Mail No. EV334648336US	Docket No. 03-1111	Type a plus sign (+) inside this box:	+

INVENTOR(S)/APPLICANTS(S)

LAST NAME	FIRST NAME	MIDDLE INITIAL	RESIDENCE (City and either state or foreign country)
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TITLE OF THE INVENTION (280 character maximum)

Method and System for Triggering Network Access

CUSTOMER NUMBER

20306

McDonnell Boehnen Hulbert & Berghoff

ENCLOSED APPLICATION PARTS (check all that apply)

☒ Specification Number of Pages 3 ☐ Drawings Number of Sheets

☒ Other: Return Receipt Postcard

METHOD OF PAYMENT FOR THIS PROVISIONAL APPLICATION FOR PATENT

☐ Applicant claims small entity status. See 37 CFR 1.27 ☒ A check or money order is enclosed to cover the Provisional Filing Fee. ☐ The Commissioner is hereby authorized to charge filing fees and credit Deposit Account Number: **13-2490.**	PROVISIONAL APPLICATION FOR PATENT FILING FEE AMOUNT ($)	160.00

CERTIFICATE OF MAILING

I hereby certify that, under 37 CFR § 1.10, I directed that the correspondence identified above be deposited with the United States Postal Service as "Express Mail Post Office to Addressee," addressed to Mail Stop Provisional Patent Application, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450; on the date indicated below.

The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.
X No. _____ Yes, the name of the U.S. Government agency and the Government contract number are: _____

Respectfully submitted,

SIGNATURE: _____ Date: 12/24/03

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☐ Additional inventors are being named on separately numbered sheets attached hereto.

Title
Method and system for triggering network access

Background
Chips are becoming smaller and cheaper to produce. This is also the case for chips incorporating radio frequency (RF) modules, which are able to transmit identification signals to receivers that are close enough to receive the RF signals. This type of chips can e.g. be used in supermarkets, where products equipped with such a RF chip can be scanned automatically when passing a check out point. This quickens and eases the payment procedures at the check out point, because the individual products can stay in the basket and are scanned very quickly. The only thing left to do is pay for the products.
In an article from BT Group (see http://www.btplc.com/Innovationandtechnology/Insights/IanPearson/superstores.htm) the following scenario is given:
"Very cheap chips will be built into many things around us in the future. Simple chips in product packaging have already been proposed to enable automatic billing, removing the need for queues at checkouts, or eventually even for the checkout at all. Customers may just load up the trolley and leave, the chips signal to the store computer along with the customer's smart card. Customers would have their accounts automatically debited. Other chips would record information on use-by dates and product type so that home electronics can determine what is available for lunch and what needs replaced on the next shopping trip."

Existing usages of RF chips that send RF signals make the assumption that the RF chip or the product enclosing the RF chip is in the power of the same entity as the device receiving the RF signals. There are scenarios thinkable where this is not the case. In these scenarios the owner of the RF chip may want to receive financial compensation for services offered, i.e. sending RF signals via RF chips. There are no solutions to technically enable this.

Aim of the invention
It is an aim of the invention to provide a method and system to trigger devices by RF signals and technically enable financial compensation to the RF chip owner.

Detailed description
The present invention makes it possible that devices are triggered by RF signals and the owner of the RF chip responsible for the triggering can receive a financial compensation for this.

To describe the invention an example is given. Assume that in a supermarket all products are equipped with a RF chip. Each RF chip transmits a unique signal identifying the product. A customer walking through the store can receive the RF signals on a

personally owned device, e.g. a PDA, notebook, mobile phone or any other wearable/mobile device. When the customer is close enough to a product, the personal device receives the unique signal from the RF chip in the product and starts a program to receive more information about the product. Hereto a connection is made to, e.g., the Internet where an Internet site hosting product information can be found. When the personal device has retrieved the information, the customer can read on the display all kinds of information about the product.

Another example is the usage of RF chips to trigger devices to use a specific network. Assume that there is a street in which a multitude of wireless networks are available. An UMTS network of operator A is covering the whole city, thus covering this street. A Wireless LAN (WLAN) network owned by local provider B covers half of the street. The whole street is provided with street-lamps owned by the city. The street-lamps in the part of the street covered by the WLAN network are fitted with RF chips sending out a signal identifying the WLAN network of local operator B. Because the RF chips are fitted in the street-lamps, the city owns the RF chips. A customer with a dual mode UMTS/WLAN device walks through the street. The device is connected to the UMTS network. When the device comes in the proximity of the street-lamps with RF chips the device detects the RF signal and knows that there is a WLAN network available. Because the WLAN network is faster and cheaper the owner of the device prefers to switch from the UMTS network to the WLAN network. The device does this automatically. On receiving the RF signal the device closes the connection with the UMTS network and connects to the WLAN network.

Yet another example is related to location specific information. Assume that the same kinds of street-lamps are used as in the previous example. This time the RF signals are not used for WLAN triggering though. The street-lamps are located near tourist sites and each RF chip sends out a signal related to a tourist site close to the street-lamp. When a tourist comes close to a street-lamp with an RF chip, the personal device receives the RF signal and starts to make a connection to a server on the Internet. From this server information is downloaded to the personal device about the tourist site at the location of the street-lamp.

Another example shows the use of a RF chip for maintenance purposes. Assume that the street-lamps equipped with RF chips in the example of WLAN triggering have a second RF chip. This second chip sends out a RF signal only when the street-lamp needs maintenance, e.g. because the light bulb is broken. Of course it is also possible to use only one RF chip capable of sending two distinct RF signals. The maintenance RF signal is picked up by a device connected to the WLAN network, which sends a report via the WLAN network to the street-lamp support division of the city.

In all examples two communication paths can be identified. Firstly there is the communication path between the RF chip and a device picking up the RF signal. Secondly there is a data connection between the device and a server connected to a data network (data connections are commonly used, but is possible to use any other kind of connection over any other network). To be able to use the second communication path, the customer (which can be a person or any another legal entity) generally has a subscription and pays for the amount of data transported. The paid for traffic over the second communication path would not have been there if the RF chip didn't trigger the device. Therefore it is fair that the entity that is in control of or owns the RF chip receives a financial compensation for each triggering resulting in data traffic over the second communication path.

The present invention makes it possible to log every trigger. This can be done in three ways.

The first possibility is to have the RF chip store the ID of the device that is being triggered. This can be achieved by incorporating a handshake protocol in the RF chip and in the device. This handshake protocol is used to send the RF signal to the device and have the device send its ID, or the ID of the customer related to the device, back to the RF chip. The RF chip stores the ID in a log file in memory. Periodically the log file is send to the provider of the second communication path. To achieve this, the RF chip can be connected to a device capable of sending the information via any communication path to the provider. After sending, the memory can be cleared. It is also possible to read the log file by passing the RF chip with a log-file-read-out device. In this case one has to come close enough to the RF chips that need to be read out. If the signal of the RF chip is strong enough, one may drive past the RF chips by car and read out the log file, possibly clearing the memory thereafter.

The second possibility is to have the personal device that receives the RF signal store an ID of the RF chip. In this case a log file is stored in the memory of the personal device. This log file is periodically sent to the provider of the second communication path.

A third possibility is to have the personal device that receives the RF signal send the ID of the RF chip to the provider of the second communication path immediately.

The result of having the RF chip usage logged is that the RF chip owner and detailed usage statistics are now known to the provider of the second communication path. This enables a financial compensation for each trigger to the owner of the RF chip.